

Great Northern #42

RAIL POST OFFICE CAR



Research and Restoration Report



GREAT NORTHERN RAILWAY
RAILWAY POST OFFICE CAR NO. 42
(RPO NO. 42)

RESEARCH AND RESTORATION REPORT

by

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DEPARTMENT OF PARKS AND RECREATION
NOVEMBER 1980

Preface

This report on the Great Northern Railway Post Office (RPO) car #42 is one a continuing series of reports on the equipment being restored by the California Railroad Museum.

Due to the late date of construction of this car and the fact that it remained with the one railroad during its entire operational life, an extensive research program was not required. The basic research on the Railway Mail Service and the Railway Postal Office cars had been completed when the earlier Southern Pacific RPO 6009 was researched.

Records of all research on the Railway Mail Service and RPO's are filed in the archives of the California State Railroad Museum.

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The GREAT NORTHERN RAILWAY

How is a railroad empire built? The empire of James J. Hill which culminated in the Hill Lines was not the product of a linear course of acquisition and construction: rather, it was a multi-branched process with Hill at the hub directing it toward his goal of a great Northern transcontinental road. The Great Northern Railway was James Hill's symbol of the "great adventure" of his life, and much of the story of the line is his personal history.

The Minnesota & Pacific Railroad Company was chartered in the Territory of Minnesota in 1857. Sixty-two miles of grading were completed from St. Paul, but the line was soon in receivership because of financial problems and its properties and rights were forfeited to the State. The St. Paul & Pacific Railroad Company was chartered in 1862, acquiring all rights of the Minnesota & Pacific including a land grant, and quickly completed ten miles of track from St. Paul to St. Anthony. The first locomotive in the State, the William Crooks, began operation over this line in 1862 with a small consist. The line, which was partly controlled by the same group of investors who owned the Northern Pacific Railway, was in a steady decline through the early 1870s and was once again in receivership by 1872. Construction was continued while the line was in receivership, but mismanagement and poor planning were a continual problem.

James Jerome Hill (he chose his own middle name in honor of the emperor Napoleon's brother) was born on a Canadian farm in 1838 and was blinded in one eye by a childhood hunting accident.¹ He left Ontario in the 1850s and

arrived in St. Paul via New York in 1856. His first job in St. Paul was in transportation as a shipping clerk in the office of a Mississippi River steamboat company. By 1865 his knowledge of the field was great enough to allow him to enter it on his own account as the representative of a steamboat line connecting St. Paul with lower Mississippi railroad lines, and a year later he became the shipping agent of the First Division of the St. Paul & Pacific. It was in this job that J. J. Hill got his first real taste for railroading and an education in the intricacies of the business. By 1870 he was in a partnership doing general business in wood, coal and commissions, and in another operating a steamboat company on the Red River of the North. Hill's early ventures into business give some indication of his ability to diversify and coalesce his interests. In the early 1870s he became heavily involved in railroad transportation, steamboating and fuel resources for the Northwest -- each of which would play an important role in the opening of the area to colonization, with Hill in the director's seat.

"George Stephen & Associates" was formed in 1878 to purchase the St. Paul & Pacific Railroad. George Stephen was president of the Bank of Montreal at that time and would become Lord Mount Stephen in later years. The "Associates" were James Hill, Norman W. Kittson (Hill's partner in the Red River Transportation Company) and Donald A. Smith, the chief commissioner of the Hudson's Bay Company and later Lord Strathcona. Stephen and Smith subsequently became the prime figures in the construction and management of the Canadian Pacific Railway.

After struggling to straighten out the management and purchase of the St. Paul & Pacific, the line was reorganized as the St. Paul, Minneapolis & Manitoba Railway Company in 1879 with Stephen as president and Hill as general manager. As construction had continued after the line went into receivership, the new company began operations with 560 miles of usable track, all in the State of Minnesota. Hill had long been confident of the economic possibilities of the road if it were rehabilitated and properly managed, and his view was justified by the time he became president in 1882. That year, even with large expenditures for improvements, a seven-percent dividend was paid to stockholders, and the company continued an uninterrupted record of dividend payments until 1933. Other indications of the efficiency of Hill's management were in the growth of the line in the early years: between 1879 and 1883 the total road mileage doubled, passenger miles tripled and freight-ton miles quadrupled.

George Stephen & Associates did not concentrate solely on the "Manitoba," as the St. Paul, Minneapolis & Manitoba came to be known. Stephen and Smith formed the core of the Canadian Pacific with Hill as an investor in 1881, and Hill acquired the charter of the Minneapolis & St. Cloud Railway in the same year. The line was originally chartered by the Territorial legislature in 1856, but had remained a "paper company" until Hill bought it for its charter rights and extended it to Lake Superior. Stephen resigned from the Manitoba in 1882 because of the demands being made on him by the Canadian Pacific, and Hill assumed the presidency. Hill pulled out of the CanPac syndicate as an active member in 1883, as he found too much conflict of interest between it

and the Manitoba. This was not the modern "conflict of interest" but a very real struggle for survival by a new road in competition with a government-subsidized transcontinental line. George Stephen & Associates was dissolved in 1882, although all the former members retained a personal and financial interest in the Minnesota line.

By 1883 the Manitoba had been extended to Devil's Lake, Dakota Territory. The western railhead remained there for three years -- partly in deference to the Northern Pacific, the designated east-west route, but mostly because the Red River Valley of Minnesota offered such large possibilities for economic expansion. Construction halted for three years, but Hill's projects did not. He spent much of that time expanding the economic basis of the colonies which the Manitoba had brought to the new territories. The Minnesota lands had proven to be unequalled for producing hard spring wheat, a development which led to a glut of wheat and a concurrent drop in prices to the farmers. Hill was appalled at the poor management which allowed these farmers to so cheat themselves and started a campaign aimed at introducing improved methods and diversification into the agricultural system. To do this he crusaded for crop rotation, fertilization and diversification and imported great numbers of breeding stock which he supplied to the farmers at minimal cost, complete with a travelling veterinarian. His intent was to decrease wheat production while increasing varieties of marketable products. The result was an increase in wheat prices and agricultural efficiency in general. Hill also supplemented these changes with the introduction of improved seed, experimental farms, credit facilities for farmers, and low shipping rates which allowed local products to be sold in distant markets at competitive prices.

These efforts did not spring from a great altruistic well in J. J. Hill; rather, he knew that for his railroad to prosper, the surrounding country must prosper. The Manitoba had no land grants with which to support itself as did many other roads. Also, as a relatively short line sandwiched between two transcontinentals it was dependent on customers in a small area for the majority of its business. Without competitive rates and available markets Hill would soon have had no railroad. Another solution to the problem of limited markets was to extend the line, a process which was soon begun.

Construction started again on the Manitoba in 1886. In that year the main line was extended from Devil's Lake to Minot, Dakota Territory and ninety-seven miles of grading were completed on the subsidiary Montana Central Railway Company from Great Falls to Helena, Montana. Winter was spent in planning, and by Spring 1887 the Manitoba was ready to tackle one of the most strenuous building sprees of railroad history. Between April and October 1887 the Manitoba was extended 545 miles -- the longest continuous mileage ever built by a single road in a single season entirely from one end of the track -- from Minot to Great Falls, Montana. At Helena the Montana Central connected with the Northern Pacific which had been completed to the Pacific in 1883; in mid-1888 connections were made with the Union Pacific at Butte, Montana and the Montana Central was integrated into the Manitoba. Extensions were also made to the east in 1888 with the purchase of four steamships for use on the Great Lakes, connecting the Minneapolis & St. Cloud with the great flour mills at Buffalo, New York.

The year 1889 saw the start of consolidation of all Hill rail properties when the Minneapolis & St. Cloud Railway was renamed the Great Northern Railway Company. In 1890 all properties of the St. Paul, Minneapolis & Manitoba and its subsidiary companies were leased to the Great Northern as a combination holding and operating company. All properties owned by Hill interests were formally purchased by Great Northern in 1907.² As president of the newly organized Great Northern, James Hill's first public action was to announce his intention to expand the line to the Pacific Coast at Puget Sound -- an extension popularly known as "Hill's Folly."

Construction of the Great Northern's Pacific Coast extension began early in 1890 at Pacific Junction, four miles west of Havre, Montana. Between Havre and Puget Sound lay 815 miles of virtually uninhabited land, mostly mountainous. A 5,213-foot pass through the Rocky Mountains, the elusive Marias Pass of legend, was located by engineer John F. Stevens in December 1890, and the only remaining obstruction to the new line lay in crossing the Cascade Mountains. The Great Northern reached Spokane in 1891, where it made connection with the Oregon Railway & Navigation Company for a through route to Portland. The last spike of the transcontinental line was driven at Scenic, Washington in 1893. The crossing of the Cascades, with numerous switchbacks and several miles of tunnels and snow sheds over the crest, would remain the worst track on the entire line until 1929, with the completion of the eight-mile Cascade Tunnel.

The Panic of 1893 found the Great Northern on firm financial ground but forced many of the nation's railroads, including the Northern Pacific, (GN's main American competitor) into receivership. Hill, with several other investors, signed the "London Agreement" in 1895 as a pact to buy the Northern Pacific for the Great Northern. This purchase was ruled illegal by the Minnesota Supreme Court on the basis of the State corporate charter laws which prevented a railroad from buying the securities or otherwise gaining control of any parallel road in the State. If the Northern Pacific could not be purchased by the Great Northern, it could be reorganized by a third party under the watchful eye of James Hill, the private investor. This was done under the terms of the "London Memorandum" signed in 1896 by Hill, Mount Stephen and J. P. Morgan, head of the Northern Pacific reorganization. It specified that mutual cooperation was to be promised between the Great Northern and the Northern Pacific; that there would be no new construction into each other's territory; that all competitive business was to be split equitably between the lines; and that both lines would cooperate to keep the Oregon Railway & Navigation Company independent and available to all lines.

The clause in this agreement concerning the Oregon Railway & Navigation Company may seem like an afterthought, but the ownership of this company was to cause the first of many battles between James Hill and Edward H. Harriman, then head of the Union Pacific. The Oregon Railway & Navigation Company was the only connection between Seattle and Portland, and control of it would determine the balance of power among the Great Northern, the Northern Pacific and the Union Pacific. The second great struggle between the two major

Northwestern powers took place in 1901 and precipitated a panic on Wall Street. Hill began serious negotiations for control of the Chicago, Burlington & Quincy Railroad in 1901, assuring Harriman that his intent was not to compete with the Union Pacific in transcontinental traffic but only to ensure access for the Great Northern and Northern Pacific to Chicago on their own line. In response Harriman attempted to corner Northern Pacific stock, driving the price to 700 at one point. Was this a simple power struggle between two railroad leaders for a monopoly on a market? Possibly, but Hill was convinced that the power behind Harriman was the Rockefeller family, whose huge interest in the Milwaukee Road would have been frozen out if the Hill merger was successful -- combined with a touch of vendetta for J. P. Morgan, one of Hill's staunchest allies and one of the Rockefellers' largest threats to supremacy in the American economy. Whatever the answer, Hill barely managed to gain a majority of Northern Pacific stock and retain control of the line.

Two major developments came out of this struggle, both of national importance. The more immediately felt was an agreement signed by Hill and Harriman, with an invitation to the other transcontinental powers to join, calling for full cooperation in the operation of all the transcontinental roads and providing for private and legal settlement of all differences between them. The second, which was to have far-reaching political implications, was the formation of the Northern Securities Company as a holding company for Great Northern and Northern Pacific stock and several non-railroad interests, with Hill as president. Eventually, nearly three-fourths of Great Northern stock (was the remaining quarter retained by

Hill interests?) and almost all Northern Pacific stock were turned in by investors for Northern Securities stock. The company immediately came under attack by the State of Minnesota and the suit was transferred to the federal government in 1902 as President Roosevelt charged that the company had been formed in violation of the Sherman Anti-Trust Act. The possibility has been tendered that these suits were brought not so much for their moral worth as to set precedents for undermining the hitherto unchallenged power of the railroads and to make some handy political points for the prosecution. Northern Securities was ruled unlawful by the Minnesota Circuit Court in 1903 and in 1904 the U. S. Supreme Court agreed, ruled the company to be illegal and ordered the sale of the railroad stock. Hill intended to redistribute the stock pro rata rather than in the same proportions it was invested, meaning that Harriman -- who was in possession of a large minority of Northern Pacific stock -- would now receive equal parts Great Northern and Northern Pacific stock, thereby neutralizing his threat to Hill. Whether or not this was the ultimate intent of the Northern Securities Company, its end result was to largely strip Harriman of his power in the Northern Pacific.

The years 1902-1905 were a busy time for Hill even without the Northern Securities suit. He had arranged for the purchase of the Chicago, Burlington & Quincy in 1901 and spent the next few years integrating it into the Hill Lines. Between 1902 and 1905 Hill's greatest effort was to secure a safe haven for the Great Northern, the Northern Pacific and the Burlington where they would be protected from further stock raids. The first of Hill's ocean freighters was launched in 1902, but the fleet was quickly made obsolete by advances in marine and motive technology and the last ship was sold in 1915.

Past alliances continued to be more economical for trade with the Orient. In 1896 Hill had negotiated with Nippon Yusen Kaisha, the largest steamship line in the Pacific, for transport of Great Northern freight to Japan and China. He had been campaigning for the establishment of an American merchant marine since the early 1890s and when no help from the government was forthcoming entered into the trade himself. Commerce with the Orient had long been an open market but was hindered by the lack of shipping space available to American merchants. His alliance with Nippon Yusen Kaisha began the trade relations which were to greatly aid in the development of Seattle as a major seaport and to bolster the growth of the Hill Lines.

In 1905 the Great Northern and Northern Pacific formed the Spokane, Portland & Seattle Railway Company which built a line from Spokane to tidewater at Portland without crossing the Cascades and purchased, leased and built other lines which opened new markets in Oregon and Washington. Purchase of controlling interest in the Colorado & Southern Railway by the Burlington was made in 1908, giving the Hill Lines access to the Gulf of Mexico at Galveston, Texas. A survey was begun in 1909 for a line on the east side of the Cascades up the Deschutes Canyon in competition with the Union Pacific-Southern Pacific combine. There followed the "Deschutes Canyon War" in which both groups tried to outdo the construction rate of the other and finally ended by sharing the new line.

James J. Hill spent many of his last years as an active member of the Hill Lines in campaigning for trade reciprocity with Canada, renewing his work in agricultural conservation and improvements and involving himself in the

changes occurring in the American educational system. He resigned the presidency of Great Northern in 1907, leaving his son Louis to fill the position, and took the chairmanship of the Board of Directors. In 1912 Louis assumed the chairmanship and Hill officially resigned from the company. His participation did not stop however, as he then purchased two banks in St. Paul, using his new position to extend credit to farmers in conjunction with the Great Northern's newly established Agricultural Extension Department and several hundred demonstration plots on farms along the line.

In a letter of resignation written in 1912 James Hill said:

Most men who have really lived have had, in some shape, their great adventure. This railway is mine. I feel that a labor and a service so called into being, touching at so many points the lives of so many millions with its ability to serve the country, and its firmly established credit and reputation, will be the best evidence of its permanent value and that it no longer depends upon the life or labor of any single individual.

After devoting much of his life and labor to the development of his railway, James Jerome Hill died in St. Paul in 1916.

The Great Northern continued in its tradition of service well into the twentieth century. The once-familiar logo of the mountain goat came into being in 1912 when the Great Northern opened its hotels in Glacier National Park and began running special trains to the Park. It was also the first use

of the trademark "See America First." Construction slowed until the 1920s, when two major projects were begun. Under the presidency of Ralph Budd, who succeeded Louis Hill's second term (1914-1919), the Cascade Tunnel and the California extension were built. The Cascade Tunnel, authorized in 1925 and completed in 1929, is an eight-mile tunnel -- longest in the Western Hemisphere -- which allowed relocation of forty-three miles of track in Washington, the elimination of nearly twelve miles of tunnels and snowsheds and the electrification of seventy-five miles of track in the Cascades. The second project was the California extension through central Oregon into northern California. This extension was begun in 1927 with sixty-eight miles of construction through Oregon to connection with Southern Pacific at Chemult, Oregon. Southern Pacific provided trackage to Klamath Falls, from which Great Northern built a line to connect with Western Pacific at Bieber, California for a through line to San Francisco in 1931.

The Depression was as hard for the Great Northern as any other line in the country but it survived to become a major military supply line in World War II, setting all-time records for freight and passenger traffic and operating revenues in the war years. The first completely new transcontinental trains (the second Empire Builder) built in the U.S. since before the start of the war were ordered by the Great Northern in 1944 and delivered in 1947. By the latter half of 1947 most passenger trains were being handled by diesels, and dieselization was complete by 1957. Installation of ventilation equipment in the Cascade Tunnel in 1956 allowed operation of diesels through the tunnel and ended electrification.

The next twenty years were spent in upgrading the existing line by adding data processing facilities, centralized traffic control and continuously welded track to the system. The final major building project was started in 1966 with the relocation of fifty-nine miles of track and the construction of the seven-mile Flathead Tunnel, both necessitated by the damming of the Kootenai River in northwestern Montana. The project was completed in 1970 by the Burlington Northern.

The Great Northern, the Northern Pacific, the Chicago, Burlington & Quincy, and the Spokane, Portland & Seattle roads were merged in 1970 to form the Burlington Northern with nearly 30,000 miles of track. This merger had been attempted many times, starting in the 1890s with James Hill, but it was not until the late 1960s that it became possible to maximize the efficiency of all the roads in this manner. The main corporate offices and rail yards are still maintained in St. Paul, Minnesota. The records of the Great Northern, et al, have been donated by the Burlington Northern to the Minnesota Historical Society in St. Paul where they are being made available to the public for further research into these great Northwestern railroads.

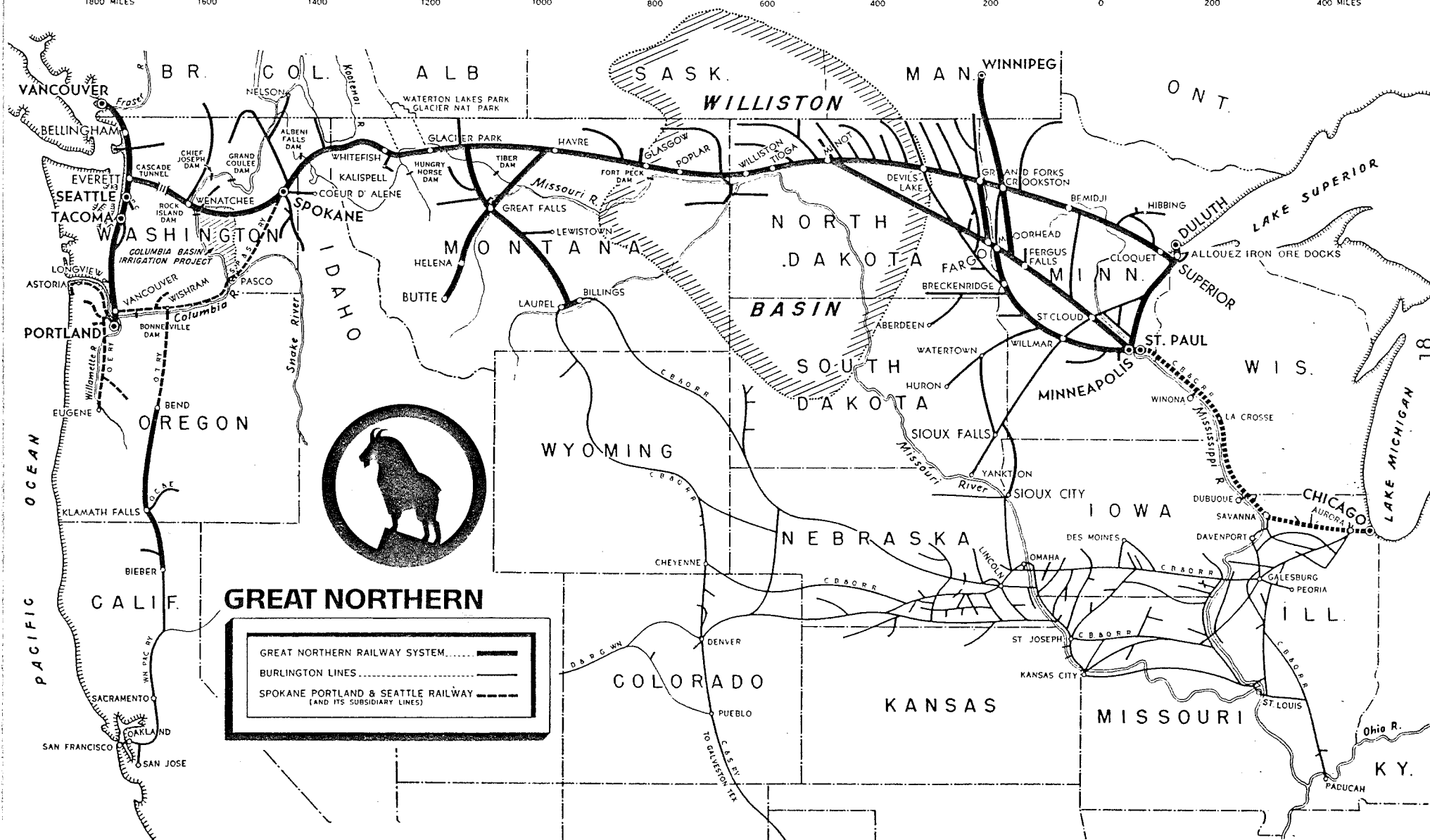
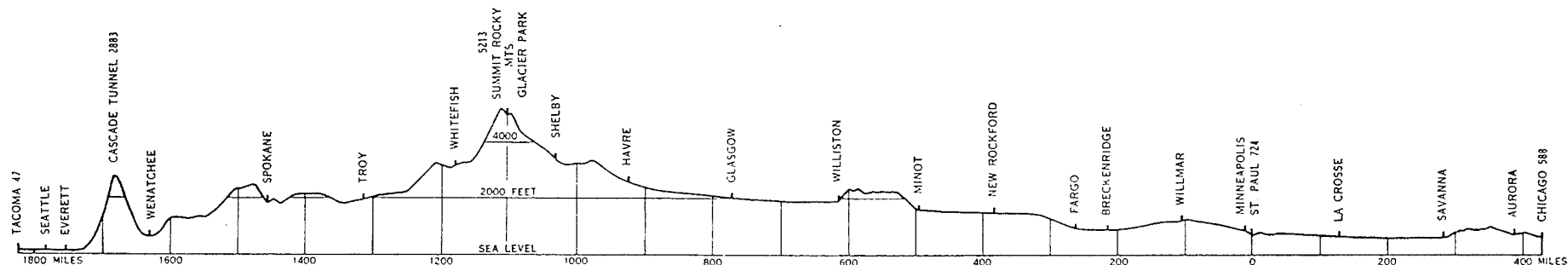
CHRONOLOGY - GREAT NORTHERN RAILWAY

- 1856 Minneapolis & St. Cloud Railway chartered by Territory of Minnesota.
- 1857 Minnesota & Pacific Railroad Company chartered by Territory of Minnesota.
- 1862 St. Paul & Pacific Railroad Company formed on charter of Minnesota & Pacific RR. Ten miles of track completed. William Crooks, first locomotive in Minnesota, begins operation.
- 1870 James J. Hill forms Red River Transportation Company with Norman W. Kittson in St. Paul.
- 1872 St. Paul & Pacific in receivership. Construction continues.
- 1878 George Stephen & Associates formed to purchase St. Paul & Pacific. Members: George Stephen, Donald Smith, James J. Hill, and Norman W. Kittson.
- 1879 St. Paul, Minneapolis & Manitoba Railway Company formed on charter of St. Paul & Pacific. George Stephen, president; James Hill, general manager.
- 1881 Stephen and Smith take control of Canadian Railway.

- 1882 Stephen resigns as president of "Manitoba"; Hill assumes presidency. George Stephen & Associates dissolved.
- 1883 Manitoba extends to Devil's Lake, Dakota Territory.
- 1886 Construction begins from Devil's Lake. Line extends to Minot, Dakota Territory. Ninety-seven miles of grading complete on subsidiary Montana Central Railway.
- 1887 Manitoba sets construction record by extending line 545 miles in one season, from Minot to Great Falls, Montana. Montana Central connects from Great Falls to Helena, Montana; connects with Northern Pacific at Helena.
- 1888 Montana Central connects with Union Pacific at Butte, Montana and is integrated into the Manitoba line. Four steamships purchased to connect Minneapolis & St. Cloud at Duluth, Minnesota with flour mills at Buffalo, New York.
- 1889 Minneapolis & St. Cloud renamed Great Northern Railway Company. All Hill interests are consolidated under that name.
- 1890 All properties of the St. Paul, Minneapolis & Manitoba and subsidiary companies are leased to Great Northern as combination holding and operating company; James J. Hill, president. Construction of Pacific Coast extension begins at Pacific Junction, Montana. John F. Stevens locates Marias Pass through Rocky Mountains.

- 1891 Great Northern reaches Spokane, Washington and makes connection with Oregon Railway & Navigation Company for through route to Portland.
- 1893 Last spike of transcontinental line driven at Scenic, Washington. Northern Pacific goes into receivership.
- 1895 Hill, et al., sign "London Agreement" to buy Northern Pacific for Great Northern. Ruled illegal by Minnesota Supreme Court.
- 1896 Hill, Stephen and J.P. Morgan sign "London Memorandum" specifying relationship between Northern Pacific and Great Northern. Hill becomes major private investor in Morgan's reorganization of Northern Pacific. Hill contracts with Nippon Yusen Kaisha for steamship line to the Orient.
- 1901 Edward H. Harriman attempts to corner Northern Pacific stock, causing Wall Street panic. Hill gains controlling interest at last minute. Hill, Harriman and Morgan form Northern Securities Company as holding company for Great Northern and Northern Pacific stock with Hill as president. State of Minnesota immediately files suit. Great Northern and Northern Pacific gain controlling interest in Chicago, Burlington & Quincy Railroad.
- 1902 Minnesota suit on Northern Securities transferred to federal government as violation of Sherman Anti-Trust Act. Great Northern's first ocean-going steamship launched.

- 1903 Northern Securities ruled illegal by Minnesota Circuit Court.
- 1904 Northern Securities ruled illegal by U.S. Supreme Court and sale of railroad stock is ordered.
- 1905 Great Northern and Northern Pacific form Spokane, Portland & Seattle Railway Company to build line from Spokane to Portland.
- 1907 Hill properties formally purchased by Great Northern.
- 1908 Colorado & Southern Railway purchased by Chicago, Burlington & Quincy.
- 1909 Survey begun for line up Deschutes Canyon, Washington.
- 1912 Great Northern opens hotels in Glacier National Park and begins special service to the Park.
- 1925-29 Construction of Cascade Tunnel.
- 1927-31 Construction of California extension.
- 1957 Dieselization complete.
- 1966-70 Construction of Flathead Tunnel.
- 1970 Great Northern; Northern Pacific; Chicago, Burlington & Quincy; and Spokane, Portland & Seattle merge to form Burlington Northern.



The Railway Mail Service

The roots of the Postal Transportation Service extend back to the early nineteenth century, when thirty-five "Distributing Post Offices" were established in central areas of the United States for the distribution of mail in those areas and transportation of other mail on to destination. The post-masters of these offices received a percentage of the postage on all mails being handled by their offices, an economic incentive that was to impede the progress of the Railway Mail Service in its early years. The number of DPOs increased to fifty by 1859, but gradually decreased as their function was quickly absorbed by the Railway Mail Service after 1864.

The first contracts were let for the transport of mail to stage operators in the early 1830s; railways were used to connect the various stage lines but not for full-distance transport. The first (unofficial) transport of mail by rail in the United States is thought to have been in 1831 on a line in South Carolina. By 1837 the Post Office Department had begun to appoint its own route agents to guard the mails on the various rail lines, as mail was shipped in baggage cars and not sorted en route. The first contract was let to a railroad for full-distance transport of mail without sorting on January 1, 1838. Following this contract the railroads began picking up the mail (entailing a stop, as catching hooks were not yet invented), sorting it en route for general areas, and dropping it off at destination or to connections with other lines. On July 7, 1838 all railroads were declared to be post roads by Congress and provisions were made for making direct contracts for transport of the mail by railroads wherever the cost did not exceed by

twenty-five percent the cost by stage.³ Within the next decade 3,900 of the 4,600 miles of American railroads then in operation were carrying mail. By 1855 the Post Office Department was beginning to press for mail cars with better facilities for the route agents.

In 1862 William A. Davis, assistant postmaster at St. Joseph, Missouri, obtained permission to introduce train-board sorting of Western mail en route from St. Joseph to a connection with the California Pony Express on the "Hannibal & St. Joe Railroad". This service, a predecessor of the Railway Post Office, was started late in July 1862 but discontinued sometime between 1863 and 1865 due to a shift in the California mail route. In 1864, a national system of railway mail service fully utilizing the concept of travelling post offices and with specially designed cars for sorting mail en route was proposed by George B. Armstrong, then supervisor in the Chicago post office and later hailed as the father of the American Railway Mail Service. Armstrong, in conjunction with A. N. Zevely, third assistant Post Master General, began conducting experiments with designs for mail cars with on-board sorting in 1864, and by 1865 there were sixty-four clerks working mail cars over 1,041 miles of track on several lines. The first "full RPO" cars built after Armstrong's design were in use by 1867, and in that year "chief head clerks," later known as clerks-in-charge, were first designated and their duties specified and the first crook-arm mail catcher was patented. The crook-arm mail catcher together with distribution schemes, which appeared the next year, allowed the railway mail service to reach an efficient operating level from which it could work for official recognition. This came on

July 1, 1869 when the Railway Mail Service was officially inaugurated by Congress with George Armstrong as general superintendent of the six divisions. All closed pouch and route agent runs were placed under RMS supervision, and Armstrong began his term by introducing the first standard mail cranes and the first extensive night RPO trains. These trains were protested by the railroads, which scheduled RPO runs in conjunction with passenger runs, but they were needed to speed mail movements.

The 1870s were a time of expansion for the Railway Mail Service. The first use of practice cases and scheme examinations for clerks on RPOs was in 1870, although scheme exams were not officially sanctioned until 1872, the year that the first state distribution scheme came into existence. Many problems, both political and economic, were inherent in the structure of the RMS. Within the Post Office Department there was trouble between the established Distributing Post Offices and the RMS, as many of the DPO postmasters felt economically threatened by the RMS and its ability to absorb their functions. Many others in the Post Office Department felt that the RMS and its employees were an extravagance. Employees of the RMS were not at this time civil servants protected from political pressures on the job. Many appointments, promotions and terminations were made on the basis of political affiliation rather than capability, and personnel policies were not standardized until 1888, when the entire RMS was placed under the Federal Civil Service by President Cleveland. RPO cars were being built on various designs by individual railroads -- usually from wooden baggage cars which offered little or no protection to the clerks in an accident, as they were directly behind the tender on most consists. The RMS had no funding to "persuade" the railroads to change their

practices of car building and scheduling of RPO runs, even though both were detrimental to the Service. There was also no funding for clerks injured in the Service or for families of those killed in accidents.

Ten years after William Davis sorted the first mail on a railway car there were 649 clerks working 14,117 miles of track on 57 lines in the United States, a phenomenal growth rate in light of the problems involved. A Service Rating System of merits and demerits, based on the railroads' Brown system, and the first official rule book, "Instructions to Railway Postal Clerks," appeared in 1872.

The mid-1870s brought the first use of "Fast Mail" to speed delivery in the New York Central's "Fast Mail White Train" and the Pennsylvania's "Limited Mail." The specially constructed trains were built in 1875 with the view of encouraging the government to support the Service in a more lucrative fashion, which increase would be passed on to the railroads in the form of higher rates for transportation. Instead, Congress responded by decreasing the overall rate of compensation to the railroads by ten percent, mostly because of the Depression of 1873 and partly in reaction to the opulence of the "White Train." Consequently the service on fast mail trains was withdrawn by the angry railroads. In 1876 Congress made an additional five percent reduction in rates to the railroads. The lines complained that these reductions lowered the rates to less than second-class freight and that the RPO cars requested by the RMS were too expensive to build and maintain for the monies received. Luckily for the RMS the American economy began to revive in the early 1880s; Congress raised the rates in 1881 and the Fast Mail service was restored.

From the 1880s to 1916 mail pay to the railroads was based on a quadrennial weighing of all mails during a fixed period of 105 days. The country was divided into four sections and one section was covered in each period. In 1881 there were 3,200 clerks on 1,892 cars working 90,200 miles of track. All route agents and head clerks were officially reassigned under the title "railway postal clerks" and agent runs became "Railway Post Offices" in that year. Soon thereafter the RMS began its first effort to establish a system-wide set of standard floor plans for RPOs in the interest of efficiency. By 1888 there were 5,100 clerks working on 143,200 miles of track.

The RMS continued expanding and spent the next twenty-five years working toward a national safety standard for employees. In 1877 there were twenty-seven accidents resulting in ten serious injuries and two fatalities. Between 1890 and 1900 there were 5,000 accidents with seventy-five deaths. These increases can be attributed to the increased number of RPO cars, combined with increased train speeds. The RMS responded by pushing for minimum construction standards of RPO cars but was again hampered by dependence on Congress for monetary incentives to the railroads which had to absorb the cost of construction of these cars. In 1891 the RMS formulated its own minimum standards for floor framing, but it was not until 1911 that Congress saw fit to act on these. In that year a bill was passed requiring that only steel or steel-framed mail cars be in use after 1916. This was to be enforced by the withholding of payment to any line running wooden cars in trains having a majority of steel equipment in a consist after July 1, 1916. Other changes in payment to the railroads after 1916 were to be in rates of compensation: after 1916 payment for transport was based on the floor space

of the compartment of RPO cars, with units of fifteen, thirty and sixty feet being standard. After these changes cars tended to be built longer and lower, as payment was for floor space only and not for the volume of the car. In 1911 the Post Office Department sought the advice of the car building industry in preparing exact specifications for RPO cars. Barney and Smith, American Car & Foundry, Pullman, and other companies sent engineers to meet with those of the various railroads and officials of the Post Office, and this committee met for almost three years. The 1911 law was modified in 1912 so that after 1913 one-quarter of the wooden fleet would be replaced annually by steel cars; conversion would therefore be complete in four years. The drawback to this modification was that it was never specified exactly which lines would be converting cars at any time, but allowed each to wait for the others to start.

The clerks themselves had not been idle all this time. The Railway Mail Mutual Benefit Association (MBA), the first national organization of railway postal clerks, was formed in late 1874 to provide financial security to injured members and the families of those killed and to secure legislation for better wages and working conditions. The National Association of Railway Postal Clerks (NARPC) was formed in 1891 with goals similar to those of the MBA but functioning more as a Congressional lobby than a benefit society. The NARPC became the Railway Mail Association (RMA) in 1904. The first strike in RMS history started in 1911 on the Tracy & Pierre line serving the capital of South Dakota, to protest working conditions and the lack of safety in RPO cars. The RMS responded by terminating all strikers and replacing them with substitutes but service on the line suffered greatly. The Brotherhood of

Railway Postal Clerks (BRPC) was formed the next month in support of the strikers and openly advocated affiliation of postal clerks with the American Federation of Labor. The strike ended as Congress passed the steel car law of 1911, but the first step in the unionization of clerks had already been taken. In 1912 a bill was passed allowing clerks to unionize without fear of reprisal from the Post Office Department, and in 1914 the BRPC was chartered as a full-fledged affiliated union by the AFL. The BRPC amalgamated with the National Federation of Post Office Clerks (NFPOC) in 1917, the end goal being to join the RMA if its members agreed to affiliate with the AFL. The Railway Mail Association was chartered by the American Federation of Labor in 1917, and the NFPOC and remaining members of the BRPC joined the RMA to create a union of postal clerks, of which there were over 20,000. The RMA did not have the right to strike against the federal government but it did have bargaining powers, and the first collective-bargaining agreement ever made between the federal government and a federal union, the RMA, was signed in 1921.

The conversion to steel or steel-framed cars was almost complete by 1922, there being only four wooden full RPO cars still in operation. The newest problem was that most trains now consisted of steel cars, rendering steel-framed cars as unsafe as wooden cars had been.

Hearings were opened by the House Post Office Committee in 1926 on the question of conversion to all-steel cars but the Post Office Department, which had so adamantly lobbied for steel cars, now sided with the railroads on the argument that the conversion to steel cars would be too expensive, and a bill introduced to Congress calling for the immediate substitution of steel cars

for all others failed to pass in 1926. In 1927 the Post Master General prohibited the operation of wooden or steel-framed cars in trains with a majority of all-steel cars in the consist and specified that steel-framed cars could not be run between all-steel cars in any train.

The argument over the construction of cars was ultimately unnecessary, as the end of the Railway Post Office was in sight by the 1930s. With the start of the Depression, Congress had more worries than the RMS and the railroads began experiencing losses in revenue due to the state of the economy. It is estimated that between 1929 and 1932 the railroads cut out 650 trains because of decreased passenger traffic; between 1922 and 1938 RPO services were cut on non-main line areas by an average of 22 million car-miles per year. This curtailment of services forced the Post Office Department to find other transportation for the mail, thereby forcing the railroads to further cut services. This cycle continued because of the railroads' dependence on mail contracts for a large percentage of their income (even as late as ca. 1955 the Pennsylvania Railroad estimated that mail revenues accounted for 11-1/2 percent of its passenger train-related income).⁴ The Post Office Department began turning to Highway Post Offices and airmail for sorting and transportation in the 1930s, although the first regular airmail service did not begin until the 1950s. "Doodle bugs," self-propelled one or two car trains built to carry passengers, baggage, freight, and mail as cheaply as possible, had been put into urban service in the early twentieth century and by the 1930s the more than 5,000 doodle bugs in use were in direct competition with RPOs for mail transport and delivery.⁵ One of the great problems with

the Railway Mail Service was that it was labor-intensive: more work could be done more cheaply by machines in central post offices than by clerks in RPOs, given the technology of the mid-twentieth century.

The demise of the RMS was offset in the 1940s by World War II, with an increase in mail traffic and a decrease in available machinery and labor. The RMS continued to expand throughout the war years, reaching a high of 30,000 clerks on 700 lines by 1951; but signs of the imminent shift to other forms of mail transportation were to be found in the decrease of RPO lines and the change from the name "Railway Postal Service" to "Postal Transportation Service" in 1949. By 1961 only 262 RPO lines were still in service, and by 1964 there were 219 lines in operation. RPOs were discontinued in the entire Southwest and most of the West in 1967, and the final transcontinental service was ended in that year. There were twenty-one RPO lines left in the United States by April 1971, but by October the number was down to eight (including the New Hampshire boat lines). The last RPO in service was the New York-Washington line on CONRAIL, the solitary RPO from 1972 to 1977. The last run of the "Wash. Line" -- the last run of a railway post office car in the United States -- was on June 30, 1977.

Mail still moves by rail in the United States but it now does so in containerized loads on flat cars. Contracts have been let to the Santa Fe, AMTRAK and CONRAIL over the last few years for the transport of tractor-trailer rigs of mail which has been previously sorted in central post offices. These rail routes, along with truck and air routes, have supplanted the railway mail in the Postal Transportation Service.⁶

After 113 years of service, the Railway Mail Service was outmoded by cheaper and more efficient means of sorting and transporting mail. What began as an experiment in the 1860s became a national system of speed and prestige for those involved in it throughout the next century, and finally collapsed under the competition of air traffic and mechanized sorting. Whether or not the current Postal Transportation Service is more efficient, it is surely lacking in the popular appeal of the old RMS and the days of "wooden cars and iron men."

CHRONOLOGY OF - RAILWAY MAIL SERVICE

- 1810 Thirty-five "Distributing Post Offices" established in central areas.
- 1830 First mail carried by rail in England.
- 1831 Thought to be first (unofficial) transport of mail by rail in U.S.
- 1831-32 First contracts let to stage operators for transport of mail;
 railroads used only to make connections between stage lines.
- 1837 Post Office Department begins appointing route agents on rail lines.
- 1838 First contract with a railroad for full-distance mail transport.
 Congress declares all railroads to be post roads and provides for
 making direct contracts for mail transport by rail wherever cost does
 not exceed by twenty-five percent the cost by stage.
- 1845 3,900 of 4,600 miles of American railroads in operation are carrying
 mail.
- 1854 Canada begins railway mail service.
- ca. 1862 First train-board sorting of mail for particular destination.

- 1864 System of national railway mail service, fully utilizing concept of travelling post offices and with specially designed cars for en route sorting, proposed by George B. Armstrong. Experiments with designs for railway post office cars begin.
- 1865 Mail cars being used on several lines, with sixty-four clerks working RPOs over 1,041 miles of track.
- 1867 First full RPO cars being used. Chief-head-clerks first designated and given specific duties. First crook-arm mail catcher patented.
- 1868 First distribution schemes appear.
- 1869 Railway Mail Service officially inaugurated by Congress with Armstrong as general superintendent of six divisions. All closed pouch and route agent runs placed under RMS supervision. Armstrong introduces first standard mail cranes and first extensive mail trains.
- 1870 First use of practices cases and scheme examinations for clerks.
- 1872 First state scheme, merit/demerit system and official rule book put into use. 649 clerks working 14,117 miles on fifty-seven lines.
- 1875 First run of New York Central "Fast Mail White Train" and Pennsylvania RR "Limited Mail".

- 1876 Congress reduces overall rate of compensation to railroads by ten percent. Service on fast mail trains withdrawn by railroads.
- 1878 Congress makes additional five percent rate cut.
- 1879 First hinged cast-iron RPO furnishings in use.
- 1881 Congress raises payments to railroads, Fast Mail service restored. 3,200 clerks working 90,200 miles on 1,892 cars. All route agents and head clerks reassigned as "railway postal clerks"; agent runs become "RPO"s.
- 1885 First attempt to establish system-wide standard floor plans for RPOs.
- 1888 Entire RMS placed under federal Civil Service. 5,100 clerks working 143,200 miles of track.
- 1889 First transcontinental Fast Mail.
- 1891 RMS formulates own minimum standards for floor framing in RPOs. National Association of Railway Postal Clerks formed.
- 1902 8,794 clerks on 179,902 miles of track handling 272,714,017 ton-miles of mail annually in eleven districts on 1,278 steam, 23 trolley and 49 boat-line RPOs.

- 1904 National Association of Railway Postal Clerks becomes Railway Mail Association.
- 1911 First strike by RMS clerks, protesting work and safety conditions. Congress passes law requiring conversion to steel-frame or steel mail cars, and strike ends. Brotherhood of Railway Postal Clerks forms in support of strikers. Task force set up by RMS, major car builders and railroads to standardize floor plans on RPOs.
- 1912 Bill passes Congress allowing clerks to unionize without fear of reprisal from Department.
- 1914 Brotherhood of Railway Postal Clerks chartered by American Federation of Labor as full-fledged affiliated union.
- 1917 Brotherhood of Railway Postal Clerks amalgamates with National Federation Of Post Office Clerks to join with Railway Mail Association. Railway Mail Association chartered by American Federation of Labor.
- 1921 First collective-bargaining agreement between federal government and a federal union, the Railway Mail Association.
- 1922 Conversion from wooden to steel or steel-framed RPOs almost complete.

- 1926 House Post Office Committee opens hearings on question of conversion to all-steel cars. Bill calling for immediate conversion fails in Congress.
- 1927 Post Master General prohibits operation of wooden or steel-framed cars in consists with majority of all-steel cars and use of steel-framed cars between all-steel cars in any consist.
- 1929-32 Railroads cut 650 trains due to decreased passenger traffic.
- 1930s Railway Mail Service being challenged by Highway Post Offices, air mail and "doodle bugs".
- 1940s World War II causes increase in Railway Mail Service operations due to decrease in available personnel and machinery.
- 1949 Railway Mail Service officially changed to Postal Transportation Service.
- 1951 30,000 clerks working on 700 lines (all-time record).
- 1961 262 RPO lines remain in service.
- 1963 219 RPO lines in service.

- 1967 RPOs discontinued in entire Southwest and most of West.
Transcontinental service ended.
- 1971 Eight RPO lines in service, including New Hampshire boat lines.
- 1972-1977 One RPO in service, on New York-Washington line of CONRAIL,
solitary RPO in the country.
- 1977 Last run of the "Wash. Line".

GREAT NORTHERN RPO NO. 42

Great Northern Railway Post Office Car No. 42 was one of six baggage-mail cars (Nos. 37-42) built for the Great Northern by American Car & Foundry in October 1950. These cars were built for the second lightweight Empire Builder passenger train, the Mid-Century Empire Builder, inaugurated on June 3, 1951. A typical train of the five new Empire Builders was a 14-car consist running between Chicago and Seattle.

The advent of the new Empire Builder saw the first lightweight Empire Builder consists of 1947 transferred to the Oriental Limited schedule with a new train name, the Western Star. A sixth consist was needed to protect this slower schedule, and new cars from several different consists were added to this new train. Among these were the six new baggage-mail cars, including RPO No. 42. It is unknown whether No. 42 ran solely on the Western Star or if it switched between the two trains.

In 1967 the Great Northern introduced a new corporate color, Big Sky Blue. Prior to this Great Northern colors had been Pullman green, Omaha orange and gold. RPO No. 42 was either retired before 1967 or was never painted to the new colors, as it has only the older scheme among its paint layers. Since most Western RPO service was stopped in 1967 it is likely that the car was retired in that year or shortly thereafter.

The car was put into storage at the Great Northern/Burlington Northern yards in St. Paul, where it remained until donated by the Burlington Northern to the

California State Railroad Museum in 1979. It arrived at the Museum Restoration Shop on October 1, 1979 but was not officially retired from the Burlington Northern roster until February 20, 1980.⁷

CHRONOLOGY - GREAT NORTHERN RPO #42

- 1950 Six baggage-mail cars (#37-42) built by American Car & Foundry for Great Northern second lightweight Empire Builder.
- 1951 Mid-Century Empire Builder inaugurated (June 3).
- post-1951 Cars built for first lightweight Empire Builder and several of those built for the second are transferred to Western Star, new name train on old Oriental Limited schedule. Six new baggage-mail cars, including #42, are among those transferred.
- 1951- RPO #42 operates on Western Star and, possibly, on Mid-Century
ca. 1967 Empire Builder. Exact operations and dates unknown.
- ca. 1967 RPO #42 retired and put into storage at Great Northern yards in St. Paul, Minnesota.
- 1970 Great Northern merger forms Burlington Northern. RPO #42 transfers to new corporation.
- 1979 RPO #42 donated to California State Railroad Museum by Burlington Northern. Arrives at Museum Restoration Shop (October), and restoration research begins.

1980 RPO #42 officially retired from Burlington Northern equipment lists
(February 20).

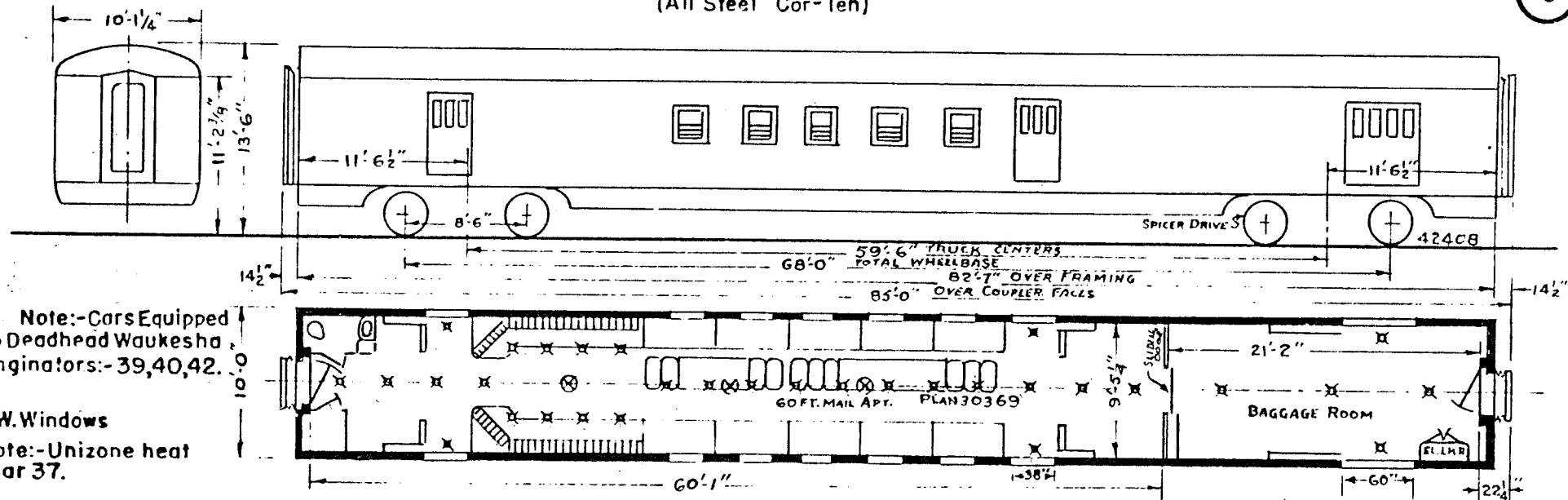
1980 Restoration completed and car placed in History Building
(October 9).

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10-20-50, C-1-52, 65-1-52, 9-15-53, 1-1-55, 5-1-56, 11-1-57.

Built by A.C.&F.-1950. (Lot 3442)

POSTAL-BAGGAGE CAR Nos. 37 to 40 & 42.
(All Steel Cor-Ten)



Note:-Cars Equipped To Deadhead Waukesha Engineers:-39,40,42.

A.B.W.Windows
Note:-Unizone heat on Car 37.

AFE 77477

E.B.Colors

MB

Weight	126400 Lbs.	Truck Centers	59'-6"	Air Brake	HSC	Electro-Pne	Finish-Exterior	Painted Steel
Length Over Framing	82'-7"	Wheelbase-Truck	8'-6"	" " Cyl.	Type U	4-12"x10	" -Interior	"
" " Buffers	85'-0"	" -Total	68'-0"	" Conditioning	None		Lighting	10KW Gen.
Width " Framing	10'-0"	Wheels	Rolled Steel	Heating	Vapor		Draft Gear	WM-6-DP
" " Crown Mldg.	10'-1 1/4"	Journals	Timken R.B.	Water System	Gravity		Buffer	Spring
Capacity (Bagg.)	22000 Lbs.	Kind Of Truck	Cast Steel	" Capacity	25 Gals.		Coupler	Titelock
Truck Brakes	Disc	Wheel Slip Control	ABS				Sand	350 Lbs.

Handbrakes Peacock 800L Lever

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Great Northern Passenger Car

Diagrams M.P. Sept. 1, 1952

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Division of the Minnesota Historical
Society. Permission necessary
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PASSENGER CAR SPECIFICATIONSDate: 12 May 80By: DenisonCar: Great Northern Railway Post Office Car #42Builder: American Car and Foundry Builder # or Plan #: 3442Date Built: 1950 Date Ordered: Unknown Gauge: StandardType of Car: RPO Passenger Capacity: N/A 22,000# Mail and BaggageType of Seats: None Number of Sleeping Berths: NoneNumber of Rooms, Compartments, etc.: 2Type of Construction: SteelType of Platforms/Vestibules: NoneType of Roof: ArchedType of Floor: Wood Type of Frame: SteelType of Body Bolsters: _____ Type of Couplers: TitlelockType of Draft Gear: WM-6DP (wrought) Type of Brakes: HSC Electro-pneumaticDisc (Budd) Wheel Slip Control - ABSExtreme Length of Car: 85' Length over Buffers: _____
(over coupler faces)Length over End Sills: 82' 7" Extreme Width: 10' 7 $\frac{1}{4}$ " Width over Side Sills: 10'Extreme Height from top of Rail: 13'6" Height from Top of Rail: 13'6"Light Weight: 126,400 lbs Extreme Wheelbase: 68'Type of Trucks: Cast SteelTruck Wheelbase: 8'6" Type Wheel Bearings: Timken R.B.Wheel Dia.: 36' Wheel Manufacture & Dates: Rolled SteelType of Safety Equipment: Hand Brake (lever) peacock 800LType of Heating: Zone - VaporType of Air Conditioning: NoneLavatory Facilities: Flush toilet and Wash Basin (Gravity System Water Feed 25 Gal. Capacity)Type of Lighting: Electric Overhead (10 kw Number of Lighting Fixtures: 32
(over) Generator) 40

PASSENGER CAR SPECIFICATIONS

Type of Signal/Train Communication Equipment: Signal Cord

Type of Electrical Generator: Safety Car Heating and Lighting Co. New Haven, Conn.

Obvious Historic Patches/Modifications to Car: (use add'l sheet if req'd)

None

Identification Numbers/Markings on Carbody, trucks, etc.: (use add'l sheet if req'd)

Attach CSRM Engineering Drawing reduction print and Chronology for further information.

FOOTNOTES

1. All biographical notes (and a great deal of this report) are taken from James J. Hill & the Opening of the Northwest by Albro Martin, an excellent reference on both Hill and the building of a railroad empire.
2. See Poor's Manual of Railroads: 1915, p. 693, et seq, for a list of properties purchased and consolidated by Great Northern in 1907.
3. From Mail by Rail, p. 98.
4. From The American Railroad Passenger Car, p. 491.
5. From "The Railway Mail Car," p. 374.
6. Ibid., p. 375.
7. From a letter from Patrick W. Stafford, Director of Media Services, Burlington Northern to California State Railroad Museum, 21 February 1980.

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RESEARCH AND RESTORATION

Research on Great Northern RPO #42 was begun in late 1979. The majority of the research was archival, as the car was to be restored to its last operating appearance; e.g., as it looked upon arrival at the Restoration Shop. The car will be used in a walk-through exhibit in the Museum, so research on interior colors and accoutrements was of the utmost importance.

The museum research was made easier by the helpful assistance of Burlington Northern who not only donated the car but supplied us with paint diagrams, drawings, parts and lettering information. The Fraternal order of Empire Builders and the Minnesota Historical Society were also extremely helpful in furnishing us paint information, car specifications and drawings.

Paint research was done to ascertain that the exterior had only been painted in the "Empire Builder" motif: striping of Pullman green, Omaha orange and gold, with gold paint and Scotchlite lettering. This was found to be so, and the paint specifications were obtained from drawings supplied by Burlington Northern. The specifications for the Scotchlite lettering were supplied by the former 3-M sales representative to the Great Northern, and the lettering was ordered from 3-M based on tracings taken from the car.

Neither paint or archival research were of much immediate help on the interior of the car.

RPO car designs and interior colors were standardized by the Post Office Department and were not the domain of the individual railroads. Consequently there were no records available on interior paint from either Burlington Northern or the Great Northern archives. Neither were records available from the U.S. Postal Service. The needed information was gained in a number of ways, many of them serendipitous. Information from a member of the Southern Pacific Mechanical Department gave clues as to the official names of the colors found in the RPO. According to this information the baggage end of the car was to be "postal car brown", approximately the same color as Gulden's mustard; the lower walls of the mail end were to be "postal car green", of which there was no description; the headliner was to be "headlining cream" or gloss white; and the floor was to be maroon throughout. The Great Northern RPO was dark gold in the baggage end, medium green on the lower walls of the mail end, cream-white on the headliner, and dark red on the floor. So far we knew the names of the colors, but we were no wiser as to their specifications. The "postal car brown" was matched with a standard paint color: Fuller O'Brien A104A, a surprisingly good match. The headlining cream was likewise matched with Dupont Dulux 4296D. The floor was painted with Fuller O'Brien 660-05 Gloss Enamel. "Postal car green" is still a mystery. New samples were obtained from the Southern Pacific Chemistry Lab, but no specifications were available. The SP sample was matched and special-mixed by the Fuller-O'Brien Company.

Information on the interior counterments of the RPO was gained from several different sources. A taped interview was conducted in January 1979 between CSRM staff members and Mr. George Ehret, Manager of Mail Classification at a

Sacramento Post Office and formerly an RPO clerk. Mr. Ehret toured the car with the staff and explained various furnishings and their functions. He pointed out several items which were missing, described many of the duties of RPO personnel and related some of his experiences with the Railway Mail Service. A transcript of Mr. Ehret's interview may be found in the RPO file, in the CSRM Archives. Other information on RPO cars and the duties of clerks came from various printed sources, especially Mail by Rail and the extensive file on RPO's and the RMS built up while researching the Southern Pacific RPO #6009.

Restoration of RPO #42 consisted mainly of cleaning and repainting the car and replacing missing or damaged equipment. The exterior of the car was sandblasted and repainted in Empire Builder colors, and all sliding doors were reworked and rehung. Covers for battery boxes and broken windows were replaced. The mail storage end walls were stripped, repaired, sandblasted, and painted. A section of the floor in front of the side doors in the mail storage section was replaced. The walls and ceiling of the mail sorting end were cleaned and paint retouched. All missing hardware was replaced and several parts such as sliding gates, drawers and molding in the sorting bins were replaced. The four rubber cancellation pads were replaced. The flush toilet was completely rebuilt to operating condition, a new wrapper was placed around the water tank and missing plumbing replaced.

Exterior mail hooks were installed and catcher pads reworked.

All interior lighting fixtures had the shades either broken or missing. The proper type shade was found in another piece of equipment the Santa Fe dining car Cochiti. A catalog number for this shade was located in the 1937 Car Builders Cyclopedia which listed the supplier as the Safety Car Heating and Lighting Company. Following through this and successor companies, the entire remaining supply of 55 shades was located and 30 of them obtained for the Trans Light Corporation of Milford Connecticut.

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ADDENDUM

This addendum is to be attached to the Research and Restoration Report dated, November 1980 for the Great Northern Railway Post Office Car No. 42 (RPO No. 42).

In the rush to complete the restoration project prior to the opening of the California State Railroad Museum and the departure of the major portion of the research staff, certain information relative to this car was omitted. To correct this omission, add the following as a last paragraph to page 47.

From Great Northern Railway drawing No. 4613 (dated August 26, 1946 and revised September 13, 1946) Empire Builder exterior colors were as follows:

Pullman Green	Dupont Dulux	88-4558
Imitation Gold Stripes	Dupont Dulux	95-056
Omaha Orange	Dupont Dulux	88-35617
Silver Stripe	Dupont Dulux Aluminum-Grey	99-8343

(The Museum RPO #42 was a part of the consist of the light weight Empire Builder.)

Further research indicated the above paints were industrial mixes and numbers were not interchangeable with automotive paint. The local Dupont dealer (Burnett & Harris) could not supply industrial paints but provided the closest matching numbers in automotive paint. These were:

	<u>Old Number</u>	<u>Match Number</u>
Pullman Green	88-4558	4558
Imitation Gold	95-056	42831
Omaha Orange	88-35617	31
Aluminum Grey	88-8343	71537

The original Great Northern lettering was "Scotchlite" #3273 Gold and obtained already cut from the 3M Company and put on the car. In repairing a damaged section on the name board, we found that this lettering is no longer made but a Scotchlite brand of reflective sheeting (#580-54) very closely matches the shade of the original Great Northern lettering. Lettering must therefore be hand cut if replacements are required. In making a touch-up to the letterboard (1984) the Dupont Dulux paint 5502-4 was used as this was the closest match to the earlier Dulux 4558 used in 1980.

Interior colors of the car are:

Brown	Fuller O'Brien	A104A
Green	Fuller-O'Brien	(Special mix)
White/Cream	Dupont Dulux	4296D
Red (Floor)	Fuller O'Brien	660-05



Dick Denison

Exhibit Technician

(Former head of Restoration Research)

Photo #1

The exterior of Great Northern Railway Post Office Car no. 42 during restoration at the CSRM Restoration Shop, 1980. (CSRM photo)

Photo #2

The interior of RPO No. 42 as received. The interior lighting fixtures were fitted with shades from actual 1950s stock. (CSRM photo)

Photo #3

The interior of RPO No. 42 during restoration. (CSRM photo)

Photo #4

Restored Great Northern RPO No. 42 in September of 1980. (CSRM photo)



Photo #1

The exterior of Great Northern Railway Post Office Car no. 42 during restoration at the CSRM Restoration Shop, 1980. (CSRM photo)



Photo #2

The interior of RPO No. 42 as received. The interior lighting fixtures were fitted with shades from actual 1950s stock. (CSRM photo)

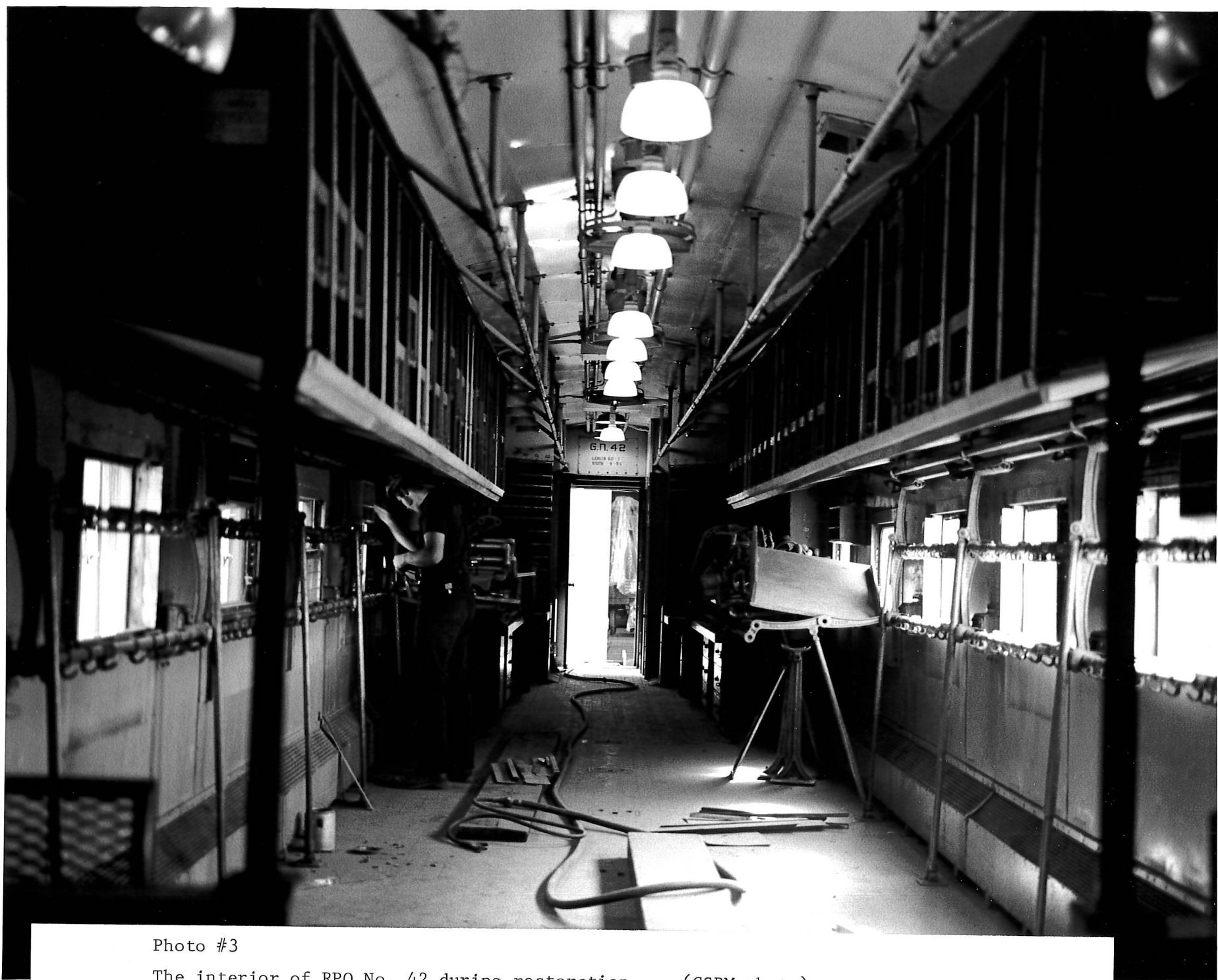


Photo #3

The interior of RPO No. 42 during restoration. (CSRM photo)

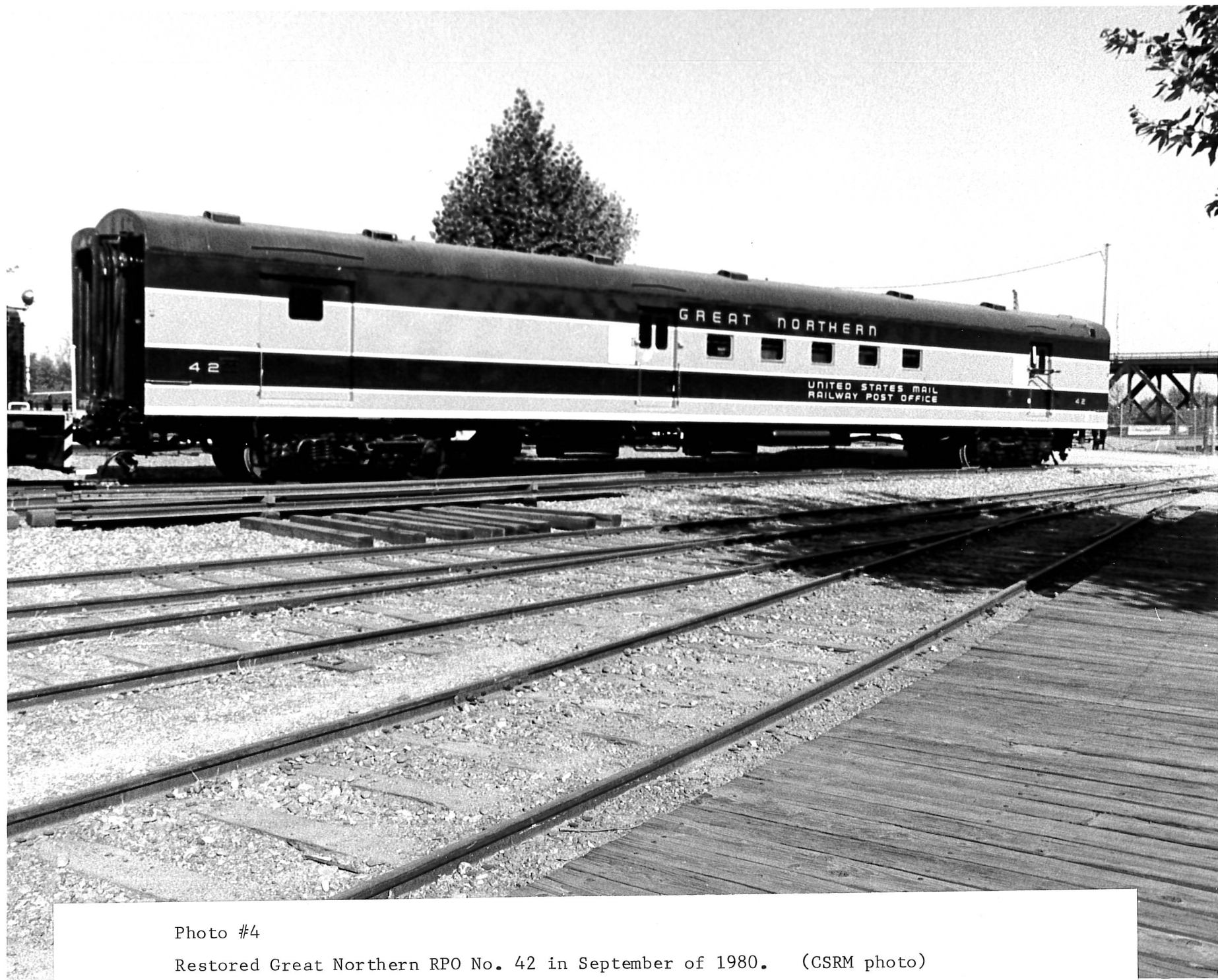


Photo #4

Restored Great Northern RPO No. 42 in September of 1980. (CSRM photo)

